

ThinkPad® W520 4276 (Optimus) - TopSeller

Personal Systems Reference (PSREF)

Type-model	Processor	Memory	Wide-screen display	Discrete graphics	Camera	Disk SATA GB ⁸ rpm	PCIe Mini Card WLAN	PCIe Mini Card WWAN/mSATA	Smart Card Reader	Finger print reader	Blue-tooth	Color calib	Bat-tery Intel vPro	Preload
4276-2QU	i7-2720QM	4GBx1	15.6" FHD	2000M	720p	500G 7200	Intel 6205 ²⁸	WWAN upg			Blue		9 vPro	Pro 64
4276-2PU	i7-2620M	4GBx1	15.6" FHD	1000M	720p	500G 7200	Intel 6205	WWAN upg			Blue		9 vPro	Pro 64
4276-23U	i7-2920XM	4GBx4	15.6" FHD	2000M	720p	500G 7200	Intel 6205	WWAN upg	Smart	Finger	Blue	X-Rite	9	Pro 64
4276-39U	i7-2820QM	4GBx2	15.6" FHD	1000M	720p	500G 7200	Intel 6205	WWAN upg		Finger	Blue		9 vPro	Pro 64
4276-38U	i7-2720QM	4GBx1	15.6" HD+	1000M	720p	500G 7200	Intel 6205	WWAN upg		Finger	Blue		9 vPro	Pro 64
4276-37U	i7-2720QM	4GBx2	15.6" FHD	1000M	720p	500G 7200	Intel 6205	WWAN upg		Finger	Blue		9 vPro	Pro 64
• These small and medium business (SMB) models are part of the US TopSeller™ Program • These models have a depot repair service 3-year limited warranty • Power-packed engineering with Open GL graphics and ISV certifications • These systems are Microsoft® Office 2010 Product Key Ready (O10PKR)														
Positioning Processor	Mobile workstation; two spindles Intel® Core™ i7-2620M processor (dual-core, 2.70GHz, 4MB Cache), DDR3 memory controller (up to 1333MHz), Intel Turbo Boost 2.0 (3.40GHz), HT technology Intel Core i7-2720QM processor (quad-core, 2.20GHz, 6MB Cache), DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.30GHz), HT technology Intel Core i7-2820QM processor (quad-core, 2.30GHz, 8MB Cache), DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.40GHz), HT technology Intel Core i7-2920XM processor (quad-core, 2.50GHz, 8MB Cache), DDR3 memory controller (up to 1600MHz), Intel Turbo Boost 2.0 (3.50GHz), HT technology										Preloaded operating system²⁰ - Genuine Windows® 7 Professional 64 Ready to install applications¹⁴ (all OSes; only some listed) • Rescue and Recovery™ • Access Connections™ • Fingerprint Software (fingerprint models) • Password Manager (fingerprint models) • ThinkVantage System Update • ThinkVantage Power Manager • ThinkVantage Toolbox Preloaded applications¹⁴ (all OSes; only some listed) • Norton™ Internet Security 2011 (30 days of virus definitions) • Adobe® Reader® • Skype™ for Windows • Windows Live™ Essentials • Microsoft Office 2010 preloaded; purchase product key to activate • Corel® WinDVD® (DVD±RW) • Corel Burn.Now™ Lenovo Edition (DVD±RW) • Corel DVD MovieFactory® Lenovo Edition (DVD±RW) • huey™PRO Monitor Color Correction by Pantone®/X-Rite® (color calibration models)			
Memory	dual-core model: 8GB max ⁷ , two 204-pin SO-DIMM sockets quad-core model: 16GB max, four 204-pin SO-DIMM sockets All: PC3-10600 1333MHz DDR3, non-parity, dual-channel capable													
Optical Ultrabay SATA disk	DVD burner, 12.7mm Ultrabay Enhanced, removable One bay for removable devices, Ultrabay Slim-compatible, 12.7mm high, bottom access Some: Solid State Drive (SSD) / SATA 3.0Gb/s, 2.5" wide, 7mm high Some: HDD / SATA 3.0Gb/s, 2.5" wide, 7mm or 9.5mm high, Active Protection System™ All: removable, upgradable, supports the second disk, Shock Mounted Hard Drive													
mSATA™ SSD	None													
Widescreen display	Some: 15.6" (396mm) HD+ (1600x900) color , anti-glare, LED backlight, 220 nits, 16:9 aspect ratio, 500:1 contrast ratio, 60% Gamut Some: 15.6" (396mm) FHD (1920x1080) color , anti-glare, LED backlight, 270 nits, 16:9 aspect ratio, 500:1 contrast ratio, 95% Gamut													
Color calibration Camera	Some: huey™PRO Colorimeter by X-Rite® color calibration sensor in palm rest HD720p resolution, wider view angle, low light sensitive, fixed focus													
Graphics	NVIDIA® Optimus™ technology, auto-switch between discrete and integrated graphics, Intel HD Graphics 3000 in processor, and NVIDIA Quadro® 1000M or 2000M , PCI Express® x16, 2GB memory, external analog monitor support via VGA DB-15 connector and digital monitor support via DisplayPort (supports single-link DVI-D via cable 45J7915); supports three independent displays; Maximum external resolution: 2560x1600 (DisplayPort) @60Hz; 2048x1536 (VGA) @85Hz; 1920x1200 @60Hz (single-link DVI-D via cable 45J7915)													
Keyboard TrackPoint® Touchpad ThinkLight™	7 row, 89-key, ThinkVantage button, spill-resistant, multimedia Fn keys TrackPoint® pointing device, "Press-to-Select," Internet Scroll Bar ¹³ , magnifying glass UltraNav™, wide touchpad below keyboard, Tap Zones, scrolling regions label, multi-touch Illuminates the keyboard to improve visibility in low-light conditions													
Dimensions (WxDxH) ³	HD & HD+: 14.68" x 9.65" x 1.25-1.40"; 372.8mm x 245.1mm x 31.8-35.6mm FHD: 14.68" x 9.65" x 1.29-1.44"; 372.8mm x 245.1mm x 32.8-36.6mm													
Weight ²	6-cell: starting at 5.40 lb (2.45kg); 9-cell: starting at 5.75 lb (2.61kg)													
Case material	Display cover: Carbon-fiber / Glass-fiber hybrid; Bottom: Glass-fiber reinforced plastic without paint													
Battery - type Battery - life ¹⁰	Lithium Ion 6-cell or 9-cell, supports optional Slice battery (57Y4545) as 2nd battery at bottom 6-cell: up to 6.5 hr; 9-cell: up to 10.8 hr; 9-cell plus slice battery: up to 21.6 hr													
Chipset ExpressCard Smart Card Read Multicard Reader Ports	Mobile Intel QM67 Express Chipset One slot (ExpressCard/34) Some: Smart Card reader 4-in-1 reader (MMC, SD, SDHC, SDXC) Two USB 3.0 (blue), one Powered USB 2.0 (yellow), one USB 2.0/eSATA combo port, external monitor (VGA DB-15, DisplayPort), ethernet (RJ-45), IEEE 1394 FireWire 400 (4-pin connector; 1394a-2000 standard)													
PCIe Mini Card WLAN ⁴ WWAN Modem Bluetooth™ Ethernet	Two PCI Express Mini Card slots 11a/b/g/n, PCIe Half Mini Card, Intel Centrino® Advanced-N 6205, 2x2 Wireless WAN upgradable 56K V.92 ⁵ modem Bluetooth 3.0 wireless, LED indicator Non-vPro model: Intel 82579LF Gigabit Network Connection (Lewisville), PHY, PCIe x1 vPro model: Intel 82579LM Gigabit Network Connection (Lewisville), PHY, PCIe x1 Intel Active Management Technology (iAMT)										Supports ThinkVantage® technologies			
Intel AMT Audio support	High Definition (HD) Audio, Conexant 20672 codec / stereo speakers, 1 watt x 2 / volume up, down, mute buttons / dual array mic, mic mute button, combo audio/mic jack Power-on password, hard disk password, supervisor password, security keyhole										170-watt AC adapter ThinkPad Roll Cage (one-piece magnesium frame) EPEAT™ Gold rating ENERGY STAR® 5.0-compliant RoHS-compliant International Warranty Service ¹⁷ 24 hour x 7 day ¹⁸ toll-free support during the warranty period ¹² via 800-426-7378			
Security Security chip Fingerprint reader	Trusted Platform Module, TCG 1.2-compliant Some: UPEK Fingerprint reader on palm rest, swipe sensor, LED indicator, Power On Authentication, supports the security chip										For compatible accessories, please go to O-W520 sheet;			
Limited warranty ¹²	3-years/1-yr battery - depot repair service / service upgrades ²² available										For ThinkPlus™, ²² service upgrade options, please go to S-TA sheet			

See footnotes for more detailed information

US models announced March 1, 2011; previous models on February 22, 2011

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